

PATENT COOPERATION TREATY

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REC'D 09 FEB 2006

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P18138WO1	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE2003/001559	International filing date (day/month/year) 07-10-2003	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant Telefonaktiebolaget L M Ericsson (publ) et al		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☒ (sent to the applicant and to the International Bureau) a total of 10 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input checked="" type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 08-04-2005	Date of completion of this report 02-02-2006
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Peder Gjervaldsaeter /LR Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/SE2003/001559

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: **Cover sheet**

INTERNATIONAL PATENT CLASSIFICATION (IPC) :

H04B 7/005 (2006.01)

REC'D **09 FEB 2006**

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/001559

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1 - 15 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* 15 - 24 received by this Authority on 2006-01-30
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages 1 - 9 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. IV Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has, within the applicable time limit:

- ☐ restricted the claims
- ☒ paid additional fees
- ☐ paid additional fees under protest and, where applicable, the protest fee
- ☐ paid additional fees under protest but the applicable protest fee was not paid
- ☐ neither restricted the claims nor paid additional fees

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:

- ☐ complied with
- ☐ not complied with for the following reasons:

The following separate inventions were identified:

I: Claims 1-64 directed to injection of a compensating sequence to an established transmission power control command sequence.

II: Claims 1-64 directed to blocking one or more frequency components of an established transmission power control command sequence.

4. Consequently, this report has been established in respect of the following parts of the international application:

- ☐ all parts
- ☐ the parts relating to claims Nos. _____

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-64</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-64</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-64</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The claimed invention

This application contains two different inventions.

Both the claimed inventions relate to the problem concerning how to reduce oscillations in the transmission power level due to delays in the power control loop.

The problem is in invention I solved by injection of a compensating sequence to an established transmission power control command sequence.

The problem is in invention II solved by blocking of one or more frequency components of an established transmission power control command sequence.

Prior art

In the International Search Report the following documents were cited:

D1: US6493541

D2: US5852782

D3: US6075974

D1 describes compensation for transmit power control time delays between a radio transmitter and receiver. This is done by adjusting a detected quality value of a received signal based on one or more previous power control commands already sent but whose effect has not yet been experienced. The transmit power level control command is thus determined so that it takes the power control loop time delay into account. (See abstract.)

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: Box V

D2 describes a method for restraining a periodic oscillatory change of the transmission power resulting from delays in the power control loop. This is in D2 done by transmitting power commands from the receiving end and then evaluating these commands in an intelligent way at the transmitting end for determining the transmission power to be used. (See column 2, line 49 - column 3, line 38.)

D3 describes improved power control by adjusting power level thresholds taking power loop delay into consideration. (See abstract.)

Statement of reasonClaims 1-64 directed to injection of a compensating sequence (invention I)

What is claimed in these claims (invention I) differs from what is known from documents D1-D3 in that it is stated in these claims that an injection of a compensating sequence to an established transmission power control command sequence should be performed to solve the problem. This feature is not described in any of documents D1-D3.

Claims 1-64 directed to blocking one or more frequency components (invention II)

What is claimed in these claims (invention II) differs from what is known from documents D1-D3 in that it is in these claims stated that blocking of one or more frequency components of an established transmission power control command sequence should be performed to solve the problem. This feature is not described in any of documents D1-D3.

To sum up

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed oscillation compensations. Therefore, the claimed inventions are not obvious to a person skilled in the art.

Accordingly, the inventions defined in claims 1-64 are novel and are considered to involve an inventive step. The inventions are industrially applicable.